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# Inter-Ethnic Dynamics in the Wake of Terrorist Attacks: Evidence from the 2015 Baga Massacre

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## Abstract

This paper investigates the consequences for inter-group conflicts of terrorist attacks. I study the 2015 Baga Massacre, a large scale attack conducted by Boko Haram at the far North-East state of Borno, Nigeria, as a quasi-natural experiment and examine a set of attitudes in the aftermath of the event of Christians and Muslims throughout the country. Comparing individuals, outside the region of Borno, interviewed by Afrobarometer immediately after the massacre and those interviewed the days before within same regions and holding fixed a number of individual characteristics, I document that the informational exposure to the event rendered Christians less amiable to neighboring Muslims and Muslims less likely to recognize the legitimacy of the state. Nonetheless, Muslims increased their view of the elections as a device to remove leaders in office, event that took place two months later with the election of the challenger, Muhammadu Buhari. My findings indicate that terrorist attacks may generate a relevant and heterogeneous backlash across ethnic groups.

**Keywords:** Large-Scale Terrorist Attacks, Inter-Ethnic Tensions, State Legitimacy, Boko Haram, Nigeria.

**JEL Classification:** D74, R23

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# 1 Introduction

Large-scale terrorist attacks are seen as eligible events to decide the outcome of a voting round. However, the direction of their effects at the ballot box is yet open to discussion. While a fair large number of studies have documented a substantial shift of votes from the incumbent platform (for the most part toward right-wing policies),<sup>1</sup> other works argue that terrorism can be an important glue-like leverage for societies, conducive of rally-round-the-flag momenta (e.g., [Baker and Oneal, 2001](#); [Gaines, 2002](#); [Collins, 2004](#); [Skitka, 2005](#); [Chowanietz, 2011](#)). An important question within this debate is the effect of terrorism in ethnically-divided societies. Does Islamic terrorism help unify the country, making people more likely to rally-round-the-national-flag, or does it exacerbate inter-ethnic tensions?<sup>2</sup>

In this paper, I study this question by examining the effects of Islamic terrorism in Nigeria. The country, in fact, is to a high extent divided between Muslims, predominantly in the North, and Christians, in the South, making religion a salient hallmark in Nigerian politics as well as in terrorist acts.<sup>3</sup> Islamic terrorism flourished in the last twenty years, keeping a large part of the Northern Nigeria hostage (e.g., [Caruso and Schneider, 2013](#)). While the North — the least wealthy part of the country<sup>4</sup> — was more affected by terrorism, the National government deployed substantial economic resources to fight against it, making the war on terrorism a salient aspect for the whole Nigerian population (e.g., [Akinola, 2015](#); [Oyewole, 2015](#)).

To obtain causal estimates of the effect of terrorism on elections, I focus on one large-scale attack, the Massacre of Baga in the North-East Nigeria, that, according to several scholars and international media, was decisive in turning the outcome of the 2015 Nigerian elections (e.g., [Ewi, 2015](#)). During the attack, perpetrated by the Islamic terrorist group of Boko Haram in January 2015, up to 2000 Muslims were killed. I find that the attempt to cover up the large military defeat by the President of Nigeria, Goodluck Jonathan, increased substantially the salience of the presidential elections of March 2015 for Muslims. Christians were rather more

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<sup>1</sup>See, for example, [Chari \(2004\)](#), [Bali \(2007\)](#), [Montalvo \(2011, 2012\)](#) on the effects of the 2004 Madrid terrorist attacks on the Spanish national elections, [Kibris \(2011\)](#) on the electoral effects of terrorism in Turkey, and [Gassebner, Jong-A-Pin and Mierau \(2008\)](#) and [Park and Bali \(2017\)](#) for related cross-country analyses.

<sup>2</sup>A related literature has examined a survey data and a large set of attitudes, documenting complex consequences for inter-ethnic coexistence of terrorist attacks (e.g., [Canetti et al., 2009](#); [Gould and Klor, 2015](#); [Böhmelt, Bove and Nussio, 2019](#); [Nussio, Bove and Steele, 2019](#); [Bove, Böhmelt and Nussio, forthcoming](#)).

<sup>3</sup>According to Afrobarometer-6, 38% of Nigerians self-declared as Muslims; about 57% are Christians. Less than 5% profess other religions ([Afrobarometer, 2015](#)).

<sup>4</sup>On the socio-economic factors, which can boost the operation of terrorist groups, see [Caruso and Schneider \(2011\)](#) and [Krieger and Meierrieks \(2011\)](#), among others.

concerned of the cost of the endless war against Boko Haram and became less amiable towards their Muslim neighbors.

The Baga Massacre offers a number of advantages to study the causal link between terrorist attacks and inter-group relations relative to prior works. First, with 2000 individuals losing their lives, the event is likely to have impacted substantially on attitudes of Nigerians. Second, as the attack was conducted in the region of Borno, almost completely populated by Muslims, the event is likely to have impacted Nigerians differently according to their religious belonging. Third, the event was substantially mismanaged by the President Goodluck Jonathan, a non Muslim politician who governed the country since 2010. For the fear of loosing the upcoming elections, he attempted to censor the massacre. This caused anger within the Muslim community but not within the Christians. Analyzing survey data collected by Afrobarometer and a rigorous identification strategy, I find that Muslims interviewed after the massacre of Baga are relatively more likely to see elections as a device that permits voters to turn around politicians. Indeed, the election saw the appointment of the challenger, Muhammadu Buhari, a Muslim, Northerner, Nigerian citizen, over the incumbent, Goodluck Jonathan. I document that behind this shift in attitudes was a decrease in the legitimacy of the state, driven by a drop in trust towards the President himself. Non-Muslim Nigerians were rather less likely to be amiable towards Muslim neighbors after the attacks. These results indicate that terrorism with inter-ethnic roots is likely to generate heterogeneous effects across the groups themselves.

In more details, I scrutinize 2400 Nigerians interviewed by the Afrobarometer between December 2014 and January 2015. As the Baga massacre occurred during the first days of January, this gives me the opportunity to compare the difference in a number of attitudes between individuals interviewed the days immediately before the massacre and individuals, with same characteristics and living in the same region, interviewed immediately after. The attack is likely to be plausibly exogenous relative to the timeline of the Afrobarometer interviewed, hence providing a suitable quasi-natural experiment to estimate causal effects of large-scale terrorist acts. I analyze only Nigerians living in regions outside the region of Borno, hence exploring the exclusive informational aspect of the attack.

To examine a heterogeneous backlash between Muslims and Christians, I move to a difference-in-difference set up that combines the time discontinuity with the religious belonging. My estimates suggest that attitudes towards democracy declined by 0.40 standard deviations, attitudes towards the law by 0.44 standard deviations, and tax morale by 0.35, relative to the interviewees who responded before the attack, within the Muslim community. Similarly, I find that trust in the President dropped

by 0.36 standard deviations and that the overall judgement of his mandate declined by half standard deviations, after the Baga massacre, among the Muslims. Beliefs on corruption did not change, suggesting that the causal channel was not economic but on the mismanagement of the Baga massacre. This change in beliefs increased the political salience of the elections by half standard deviations, within the Muslim community.

To curb concerns over potential unobservables at work, I provide further evidence on the above mechanism by conducting a battery of falsification tests. The examination of a number of attitudes on elections and further judgements of neighbors, which are unlikely to be affected by the exposure to the outbreak of violence at Baga, reveals that immaterial factors not related to the attack have not changed. This, together with a rigorous identification strategy, makes me confident that the attack perpetrated by Boko Haram has affected Christians' attitudes on Muslims and Muslims' view on the state.

The article is organized as follows. Section 2 describes the institutional setting and the Baga massacre. In Sections 3 and 4, I describe the data, the empirical strategy, and present the results, including some falsification tests. Section 5 concludes.

## 2 Islamic terrorism in Nigeria and the Baga massacre

The state of Nigeria is a federation of 36 states (I will refer to them as regions interchangeably) populated by more than 250 ethnic groups. However, in terms of religions, Nigerians are to a high extent divided between Muslims, predominantly in the North, and Christians, in the South, with a very small minority professing other confessions. This made religion a salient hallmark in Nigerian politics as well as in terrorist acts.

After independence, from the British Empire, the newly born country of Nigeria passed through a tormented political transition with democracy being reinstated only in 1999, when the former dictator Sani Abacha died. After 1999, six democratic elections were held in the country with the second to the last, in March 2015, representing the first change in the government party from the People's Democratic Party (PDP) to the All Progressives Congress (APC) party. The elections of 2015, which saw Muhammadu Buhari (APC) to challenge Goodluck Jonathan (PDP), were particularly important as the two principal contestants brought on to the polls all the differences between the South and the North of the country. As [Ewi \(2015\)](#) notes "*in these two candidates, all the contradictions of Nigeria came together — zonal*

*politics, minority-majority politics, ethnicity, religion, corruption, and insecurity — in an intriguing interplay.”*

More than other, however, the elections of March 2015 have been largely affected by terror (Ewi, 2015). Terrorism was not new in Nigeria and played a crucial role beginning with 2009 when the economic crises combined with an escalation of violence perpetrated by the group of Boko Haram, after its leader was shot dead.<sup>5</sup> The effects were particularly harsh in the North-East side of the country (Borno, Adamawa, and Yobe) where the World Bank (2015) estimates a death toll of at least 20000 lives and an incalculable number of displaced people. Between January 3rd and 7th 2015 Boko Haram was liable of one of the most cruel attacks in the region of Borno. The city of Baga, in the region of Borno, was the headquarters of the Multinational Joint Task Force hosting troops from Chad, Niger, and Nigeria. On the 3rd of January, Boko Haram started a massive operation in the area that ended on the 7th when the terrorist group took full control of the city and its surroundings. During the operation, about 2000 lives were lost as reported by several international media.<sup>6</sup>

Due to the political salient timing of the Baga attacks, the incumbent and the challenger managed very differently the episode. While Goodluck Jonathan, member of the Christian group, largely concealed the happening, largely due by the failure of the Nigerian army, Muhammadu Buhari, a Muslim, condemned the attacks as well as the incumbent’s attempts to cover it up (Ewi, 2015). In the remainder of this article, I will document how this event hit differently the attitudes of Muslims and Christians, impacting on the 2015 elections through an increase of the political salience of voting for members of the former group.

### 3 Data

I analyze the 6th Afrobarometer round — a large scale survey that collects a set of attitudes of the African population as well as their personal characteristics. In Nigeria interviews were conducted between 5th December, 2014 to 19th January, 2015 for a total of 2400 randomly selected respondents (Afrobarometer, 2015).

I examine the following attitudes related to the legitimacy of the state.

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<sup>5</sup>I remind the interested reader on the rise of the Islamic terrorism in Nigeria to Adesoji (2010), Caruso and Schneider (2013), Akinola (2015), and Oyewole (2015). Price and Elu (2017) document how rapid variations in temperature and in rainfall were conducive of the spread of Islamic terrorism through the country of Nigeria. Bertoni et al. (2019) look at the effects of Boko Haram attacks and find a negative impact on school-aged Nigerians investment in education.

<sup>6</sup>See, for example, the article “*Boko Haram crisis: Nigeria’s Baga town hit by new assault*” on the BBC World web page, January 8th, 2015.

- Democracy: *Overall, how satisfied are you with the way democracy works in Nigeria?* The item varies between 0, indicating *Nigeria is not a democracy*, and 4 that stands for *very satisfied*. As reported in Table 1, where all the summary statistics of the outcome variables are displayed, on average the scale takes value of 2.02. However, a substantial variation exists around the mean (standard deviation equals to 0.89).
- Law: *People must obey the law*. The item varies between 1, indicating *Strongly disagree*, and 5 that stands for *Strongly agree*. On average the scale takes value of 3.47 and a standard deviation of 1.17.
- Tax morale: *People must pay taxes*. The item varies between 1, indicating *Strongly disagree*, and 5 that stands for *Strongly agree*. On average the scale takes value of 3.55 and a standard deviation of 1.10.

All these scales take higher values when respondents have more positive attitudes related to the legitimacy of the state.

As the President of Nigeria, Goodluck Jonathan, catalyzed much of the attention for his mismanagement of the Baga massacre I also explore the following set of attitudes toward the President.

- Trust: *How much do you trust the President?* The item varies between 0, indicating *Not at all*, and 3 that stands for *A lot*. On average the scale takes value of 1.10, indicating that among Nigerians Goodluck Jonathan was not deemed as a much trustworthy person. However, standard deviation equals to 1.01, indicating the such beliefs varies substantially among Nigerians.
- Perception of corruption: *How many between the President and the officials of the Presidency do you think are involved in corruption*. The item varies between 0, indicating *None*, and 3 that stands for *All of them*. On average the scale takes a midway value of 1.76 and a standard deviation of 0.86. Note that this is the only scale that is higher when a respondent holds a more negative view of the President.
- Overall performance: *Do you approve or disapprove of the way the President have performed his jobs over the past twelve months*. The item varies between 1, indicating *Strongly disapprove*, and 4 that stands for *Strongly approve*. On average the scale takes value of 2.21 and a standard deviation of 0.97.

In the main analysis I look at whether the attack impacted on Nigerians' beliefs over elections or whether this heightened inter-ethnic tensions. To this aim, I examine the following couple of outcomes:

- Political salience of the elections (*Think about how elections work in practice in this country. How well do elections: Do they enable voters to remove from office leaders who do not do what the people want?*), a scale that increases from 0 to 3 when respondents hold a better view of election as a useful device. As reported in Table 1, this scale has mean 1.13.
- Trust in neighbors of other religion groups (*Would you like having people from other religions as neighbors?*), a scale that gets higher when individuals are less happier to have people from other religions aside. On average the scale gets value of 3.58 on a range of 1 and 5.

Finally, to curb concerns on the possibility that my results pick up the effect of unobservables, I perform a battery of falsification tests using the following outcomes that are arguably unlikely to be affected by the Baga Massacre. These are all 0-3 scales.

- Impunity of ordinary people (*How often, in this country, do ordinary people who break the law go unpunished?*), a scale that increases when respondents agree with that sentence. This 0-3 scale has mean 0.89.
- Fair elections (*In your opinion, how often do votes are counted fairly in this country's elections?*), a scale that gets higher when individuals are more in line with that sentence. On average the scale gets value of 1.08.
- Voters are bribed (*In your opinion, how often do voters are bribed in this country's elections?*). The scale average is quite substantial, 1.82, and a standard deviation of 0.92.

To compare individuals with same characteristics I always include in my analysis a set of covariates. Gender, age (and its square), and dummies that capture rural status, unemployment status, if member of a religious group, and the interviewee's educational level. To ensure that interviews have been conducted under a comparable format, I also include interviewers' characteristics (gender and education) and whether he/she speaks the same language of the interviewee. Summary statistics for these variables are reported in Table A1.

## 4 Empirical strategy and results

### 4.1 Empirical strategy

I exploit the plausible exogeneity of the timing of the Baga massacre relative to the timeline of interviews conducted by Afrobarometer. This unexpected event



during a survey design allows me to split the population of sampled Nigerians and investigate whether respondents interviewed the day immediately after the massacre exhibit attitudes that differ with those interviewed the days before.<sup>7</sup> I capture this time discontinuity through the dummy  $post$ , equals to 1 if the interview has been carried out after the 7th of January, in the following empirical specification:

$$y_{ir} = \alpha + \beta post_i + X_i' \gamma_1 + R_i' \gamma_2 + \Theta_r + \varepsilon_{ir}, \quad (1)$$

where  $i$  indicates individuals and  $r$  the region where  $i$  lives. The parameter of interest is  $\beta$ , the differential effect of the attack before and after, which is identified by controlling for a number of individual covariates, in  $X_i$ , and characteristics of the interviews, in  $R_i$ , and including a set of region fixed effects,  $\Theta_r$ . Importantly, to avoid any negative direct backlash from the massacre, I exclude the region of Borno and study Nigerians in all the other regions.  $\varepsilon_{ir}$  is the error term that I cluster at village level.

An important concern of these analyses is that the two samples, interviewed before and after the massacre, must be comparable along relevant dimensions. In Table 2, I report a set of balance tests on observables. Column 1 presents the mean of the sample of individuals interviewed in pre-treatment period, column 2 the mean of those interviewed after January 7th. Standard errors of the estimated mean is presented immediately below. In column 3 I show the  $t$ -test associated to the difference between columns 1 and 2. Overall, differences are little between the two groups. Male gender is more represented among both interviewees and interviewers in the post-attack sample. Also, there are fewer unemployed in the post-attack sample, despite no difference arises between urban and rural areas.

These differences are likely to depend on the few number of observations that may affect the magnitude of the  $t$ -test (Imbens and Wooldridge, 2009). To address this potential concern, I follow Imbens and Wooldridge (2009) and compute the normalized differences that do not depend on the size of the sample. Namely, the normalized difference is calculated as the difference between columns 1 and 2, divided by the square root of the sum of the two samples' variances. Using this index, Imbens and Rubin (2015) suggest a normalized difference not above 0.25 for establishing unconfoundedness. As one can read from column 4, only differences in the share of unemployed are above this threshold. Since this difference may in turn explain differences in attitudes related to the legitimacy of the state, if e.g. poor are less prone to self-report their feelings about it, I always control for a dummy equals to

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<sup>7</sup>See Munoz, Falco-Gimeno and Hernandez (2020) for a technical review of articles that have exploited this empirical design.

1 if the interviewee is unemployed.

To examine the differential reaction to the attack between Muslims and Christians, I combine the dummy *post* with a dummy *muslim*, equals to 1 if the respondent declares to be a Muslim believer, in the following difference-in-difference set-up:

$$y_{ir} = \alpha + \beta_1 post_i + \beta_2 (post_i \times muslim_i) + \beta_3 muslim_i + X_i' \gamma_1 + R_i' \gamma_2 + \Theta_r + \varepsilon_{ir}. \quad (2)$$

$\beta_2$  now captures the effect of the (informational) exposure to the attack, on the outcome, after January 7th relative to the pre-treatment period, in the Muslim population relative to the Christians.

## 4.2 Attitudes towards the state

In Table 3, I analyze the effects of the Baga attack on a set of attitudes towards the state. In columns 1, 3, and 5, I present estimates of the difference of the model in Eq. 1. I find that interviewees surveyed after the 7th of January exhibits lower satisfaction with democracy (column 1), lower willingness to obey to the law (column 2), and lower tax morale (column 3), although the last two estimates are not statistically different than zero.

In columns 2, 4, and 6, I report the difference-in-difference results. In all the three specifications, I find that the shift in attitudes towards the state, documented above, was driven by a change in attitudes within the Muslim group. Relative to the Christians, Muslims interviewed after the attack were less satisfied with democracy, less prone to obey to the law, and to comply with taxes, when compared to Muslims interviewed the days before. In Figure 1 I compute and plot the marginal effects of the attacks for each of the two religious groups and the confidence intervals, at 90% level, depicted by the horizontal lines. Point estimates at the bottom of Figure 1 depict the difference in these attitudes after the attack within the Christian community. They are all not statistically different than zero. Point estimates at the top of Figure 1 are systematically at the left-hand side of the graph, indicating a reduction in these attitudes within the Muslim community.

These shifts are substantial. After the Baga massacre, attitudes towards democracy (in orange) declined, within the Muslim community, by -0.35 — i.e., by 40% of the standard deviation in attitudes towards democracy. At a similar pace, attitudes towards the law of the state (in red) declined by -0.44 — i.e., by 44% of its standard deviation. Finally, Muslims' tax morale (in purple) dropped by 35% of the total standard deviation of tax morale.

### 4.3 Attitudes towards the President

In Table 4, I then move to analyze the attitudes of Nigerians towards President Goodluck Jonathan in the wake of the Baga massacre. Columns 1, 3, and 5, show that Nigerians became less willing to trust and assert the performance of the President as satisfactory. Beliefs that within the office of the President corruption is the rule also increased. However, some of these estimates are statistically imprecise. In columns 2, 4, and 6, I then test the difference-in-difference coefficient (third row) and show that this was due to the fact that only one group updated its beliefs towards the President in the wake of the attack.

A clearer pattern emerges by analyzing the marginal effects, depicted in Figure 2. Once again, at the top of the graph I plot the marginal effects for the Muslim group, at the bottom those related to the Christians. While I estimate no shift for the group of Christians, the shift for the Muslims is sizable and statistically meaningful in two out of the three dimensions analyzed. For example, after the attack, the trust in Goodluck Jonathan dropped by 35% of the standard deviation. Beliefs over his performance declined substantially by 53% of the standard deviation. The effect on corruption is smaller (it explains only the 22% of the standard deviation) and not statistically significant, indicating that the channel that drove the Muslims' backlash is not the economic mismanagement of the state.

### 4.4 The role of elections

An important question is whether this backlash in beliefs translated into political action. While I do not have data on elections, I show that the Baga attack increased the salience of the elections for the Muslims, but not for the Christians. Specifically, I analyze the question *Do elections enable voters to remove leaders from office?* In column 1 of Table 5 I test this channel by regressing the dummy *post* on the above beliefs. While the effect is positive, it is not statistically significant. However, when region fixed effects and individual characteristics are included the effect slightly increased becoming significant at 10% level of confidence. In columns 3 and 4, I restrict the sample to Christians and Muslims only respectively. While the shift is zero for the Christians, attacks caused a substantial shift within the Muslim community. In column 5, finally, I test this hypothesis in a more rigorous way, by exploiting a difference-in-difference set-up. The marginal effects are presented in Figure 3. Once again, the shift within the Muslims is depicted at the top of the graph and, in terms of standard deviations, it explains half of the standard deviation in the political salience of elections.

## 4.5 Out-group bias

So far, I have documented a substantial shift in attitudes towards the state and the incumbent President within the Muslim group. Christians were relatively unaffected by the event along the above analyzed dimensions. In this section, I show that, after the attack, Christians became less amiable towards Muslim neighbors. I document this in Table 6 where I examine the following outcome: *Would you like having people from other ethnic group as neighbors?* In columns 1 and 2 I test whether, after the attack, Nigerians became less likely to like members of other ethnic groups, without and with controls and fixed effects. In column 3 I restrict the sample to Christians, while in column 4 I only examine Muslims. In column 5 I test the difference-in-difference coefficient. I plot the marginal difference-in-difference effects in Figure 4, for Muslims (at the top) and Christians (at the bottom). While the effect is not statistically different from zero for the Muslims, it turns negative for the Christians, explaining 48% of the standard deviation.

## 4.6 Falsification tests

The results documented so far suggest that the Baga Massacre caused an electoral backlash, within the Muslim community, driven by a drop in the legitimacy of the state and of trust towards the President, and a shift in the out-group bias within the Christian community. While the number of regressions documented all go towards the same direction, there could be concerns that the above effect is spurious and driven by other factors. A useful exercise to curb this concern is to perform a falsification test. In this section, I scrutinize three additional outcomes that, while related with the two chief outcomes inspected above, are not expected to be influenced by the Baga Massacre and, overall, by the Islamic terrorism.

In more detail, I examine the effect of the attack on Nigerians' belief on whether ordinary people remain unpunished after breaking the law. This is related to the analysis performed in Table 6 in that people express a belief on other people, but differs on the fact that it is not expected to be affected by the treatment. Similarly, I analyze two beliefs on elections (so related to the results presented in Table 5) that once again are not related to terrorism and its effects whatsoever: election fairness and voters willingness of being bribed.

I present these falsification tests in Table 7. In column 1 I estimate the difference (before vs. after January 7th) in the belief about ordinary people impunity of all the Nigerian respondents. In column 3 and 5 I do the same exercise employing on the left hand side the two other outcomes related to attitudes about the elections. Even columns estimate the difference-in-difference coefficients. Irrespective of the

outcome I inspect I do not find any statistically significant effects. I conclude that my results are unlikely to be driven by a spurious effect.

## 5 Conclusions

This paper analyzes heterogeneous backlashes to a major terrorist attacks conducted in the region of Borno by Boko Haram. The event impacted Muslims and Christians in a substantially different way. Exploiting an unexpected event during the Afrobarometer-6 design, my results indicate that the attacks caused a raise of political salience of the elections within the Muslim community. I find that this shift was due to a drop in the legitimacy of the state in the eyes of Muslim Nigerians, driven by a fall in trust to the President Goodluck Jonathan. This shift in attitudes was so relevant to explain the removal of the incumbent President in favor of the Muslim challenger, Muhammadu Buhari. A first implication of my study is therefore that large-scale terrorist attacks can have a direct and substantial impact on elections and democratic institutions.

However, my study also implies that terrorist attacks with a religious root are likely to impact in a different manner across the group themselves. Indeed, I do not find that Christians punished the incumbent for the military defeat against Boko Haram, but rather the rival group, the Muslims. This is I think a potential, important future avenue of research that scholars should push forward to improve our understanding of the complex electoral and attitudinal effects of terrorism.

## References

- Afrobarometer (2015). 'Data Codebook for a Round 6 Afrobarometer Survey in Nigeria', November 2015.
- Adesoji, A. (2010). The Boko Haram Uprising and Islamic Revivalism in Nigeria. *Africa spectrum*, 45(2), 95-108.
- Akinola, O. (2015). Boko Haram insurgency in Nigeria: Between Islamic fundamentalism, politics, and poverty. *African Security*, 8(1), 1-29.
- Baker, W. D., & Oneal, J. R. (2001). Patriotism or opinion leadership? The nature and origins of the "rally-round the flag" effect. *Journal of Conflict Resolution*, 45(5), 661-687.

- Bali, V. A. (2007). Terror and elections: Lessons from Spain. *Electoral Studies*, 26(3), 669-687.
- Bertoni, E., Di Maio, M., Molini, V., & Nistico, R. (2019). Education is forbidden: The effect of the Boko Haram conflict on education in North-East Nigeria. *Journal of Development Economics*, 141, 102249.
- Böhmelt, T., Bove, V., & Nussio, E. (2019). Can Terrorism Abroad Influence Migration Attitudes at Home?. *American Journal of Political Science*.
- Bove, V., Böhmelt, T., & Nussio E. (forthcoming). Terrorism Abroad and Migration Policies at Home, *Journal of European Public Policy*.
- Canetti, D., Halperin, E., Sharvit, K., & Hobfoll, S. E. (2009). A new stress-based model of political extremism: Personal exposure to terrorism, psychological distress, and exclusionist political attitudes. *Journal of Conflict Resolution*, 53(3), 363-389.
- Caruso, R., & Schneider, F. (2011). The socio-economic determinants of terrorism and political violence in Western Europe (1994-2007). *European Journal of Political Economy*, 27, S37-S49.
- Caruso, R., & Schneider, F. (2013). Brutality of Jihadist terrorism. A contest theory perspective and empirical evidence in the period 2002-2010. *Journal of Policy Modeling*, 35(5), 685-696.
- Chari, R. (2004). The 2004 Spanish election: terrorism as a catalyst for change? *West European Politics*, 27(5), 954-963.
- Chowanietz, C. (2011). Rallying around the flag or railing against the government? Political parties' reactions to terrorist acts. *Party Politics*, 17(5), 673-698.
- Collins, R. (2004). Rituals of solidarity and security in the wake of terrorist attack. *Sociological theory*, 22(1), 53-87.
- Ewi, M. (2015). Was the Nigerian 2015 presidential election a victory for Boko Haram or for democracy? *African security review*, 24(2), 207-231.
- Gaines, B. J. (2002). Where's the rally? Approval and trust of the president, cabinet, congress, and government since September 11. *PS: Political Science & Politics*, 35(3), 531-536.
- Gassebner, M., Jong-A-Pin, R., & Mierau, J. O. (2008). Terrorism and electoral accountability: One strike, you're out!. *Economics Letters*, 100(1), 126-129.

- Gould, E. D., & Klor, E. F. (2015). The Long-run Effect of 9/11: Terrorism, Backlash, and the Assimilation of Muslim Immigrants in the West. *The Economic Journal*, 126(597), 2064-2114.
- Imbens, G. W., & Wooldridge, J. M. (2009). Recent developments in the econometrics of program evaluation. *Journal of economic literature*, 47(1), 5-86.
- Imbens, G. W., & Rubin, D. B. (2015). *Causal inference in statistics, social, and biomedical sciences*. Cambridge University Press.
- Kibris, A. (2011). Funerals and elections: The effects of terrorism on voting behavior in Turkey. *Journal of Conflict Resolution*, 55(2), 220-247.
- Krieger, T., & Meierrieks, D. (2011). What causes terrorism?. *Public Choice*, 147(1-2), 3-27.
- Montalvo, J. G. (2011). Voting after the bombings: A natural experiment on the effect of terrorist attacks on democratic elections. *Review of Economics and Statistics*, 93(4), 1146-1154.
- Montalvo, J. G. (2012). Re-examining the evidence on the electoral impact of terrorist attacks: The Spanish election of 2004. *Electoral Studies*, 31(1), 96-106.
- Munoz, J., Falco-Gimeno, A., & Hernandez, E. (2020). Unexpected Event during Survey Design: Promise and Pitfalls for Causal Inference. *Political Analysis*, 1-21. doi:10.1017/pan.2019.27
- Nussio, E., Bove, V., & Steele, B. (2019). The consequences of terrorism on migration attitudes across Europe. *Political Geography*, 75, 102047.
- Oyewole, S. (2015). Boko Haram: Insurgency and the war against terrorism in the Lake Chad region. *Strategic Analysis*, 39(4), 428-432.
- Park, J., & Bali, V. (2017). International terrorism and the political survival of leaders. *Journal of Conflict Resolution*, 61(7), 1343-1370.
- Price, G. N., & Elu, J. U. (2017). Climate Change and Cross-State Islamist Terrorism in Nigeria. *Peace Economics, Peace Science and Public Policy*, 23(3).
- Skitka, L. J. (2005). Patriotism or Nationalism? Understanding Post September 11, 2001, Flag-Display Behavior 1. *Journal of Applied Social Psychology*, 35(10), 1995-2011.

World Bank (2015). Recovery and Peace Building Assessment in North-East Nigeria.  
The World Bank.



Table 1: Summary statistics of outcomes

	mean	sd	min	max	count
Democracy Satisfaction	2.02	0.89	0.00	4.00	2358
Obey the Law: Right	3.47	1.17	1.00	5.00	2361
Tax Morale	3.55	1.10	1.00	5.00	2336
Trust in the President	1.10	1.01	0.00	3.00	2379
Perception of Corruption (President)	1.76	0.86	0.00	3.00	2330
President's Overall Performance	2.21	0.97	1.00	4.00	2376
Political Salience of Elections	1.13	0.94	0.00	3.00	2309
Like Neighbors of Other Religions	3.58	1.19	1.00	5.00	2354
Impunity of Ordinary People	0.89	1.01	0.00	3.00	2349
Fair Elections	1.08	0.81	0.00	3.00	2333
Voters are Bribed	1.82	0.92	0.00	3.00	2315

Table 2: Balance test of covariates

Variable	(1) pre-period Mean/SE	(2) post-period Mean/SE	T-test Difference (1)-(2)	Normalized Difference
Age	31.914 (0.359)	31.790 (1.179)	0.124	-0.009
Age (square)	1136.278 (28.177)	1081.840 (95.745)	54.439	-0.049
Male	0.497 (0.002)	0.617 (0.050)	-0.121**	0.172
Rural	0.558 (0.034)	0.728 (0.080)	-0.171	0.255
Unemployed	0.475 (0.019)	0.272 (0.055)	0.204***	0.304
Education	4.693 (0.109)	4.593 (0.190)	0.100	-0.023
Member of Rel. Group	1.197 (0.052)	1.469 (0.212)	-0.272	0.122
Male (interviewer)	0.509 (0.013)	0.593 (0.073)	-0.083*	0.118
Same Language	0.490 (0.029)	0.432 (0.077)	0.058	0.082
Education (interviewer)	6.692 (0.049)	6.741 (0.204)	-0.049	0.029

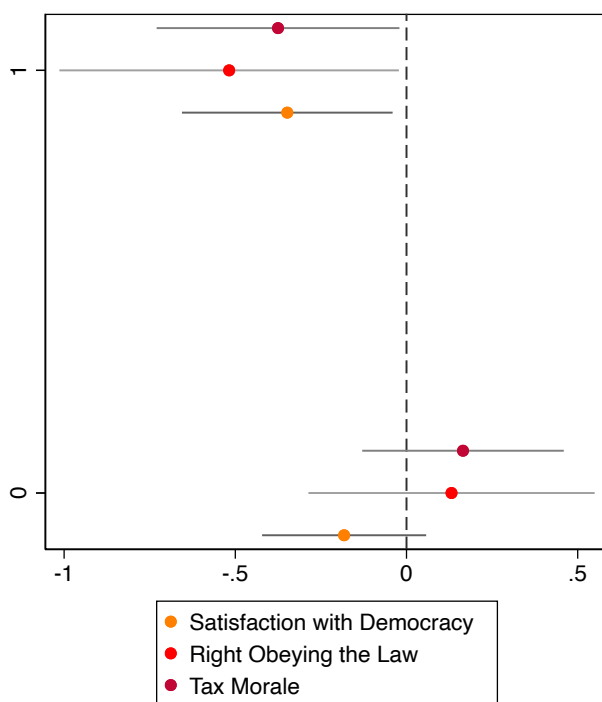
*Notes:* The value displayed for t-tests, in column 3, are the differences in the means across the groups. Standard errors are clustered at village level. Fixed effects at region level are included in all estimation regressions. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent critical level. In column 4, I report the normalized differences (see, [Imbens and Wooldridge, 2009](#)).

Table 3: Legitimacy of the state and ethnic divide

	Dependent Variable is:					
	Democracy Satisfaction (1)	(2)	Obey the Law: Right (3)	(4)	Tax Morale (5)	(6)
post	-0.274** (0.137)	-0.182 (0.145)	-0.219 (0.237)	0.132 (0.253)	-0.124 (0.155)	0.165 (0.178)
muslim		-0.097 (0.063)		0.082 (0.068)		0.128* (0.069)
post × muslim		-0.166 (0.207)		-0.650** (0.307)		-0.540** (0.273)
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2358	2358	2361	2361	2336	2336
$R^2$	0.127	0.129	0.124	0.126	0.155	0.158

The unit of observation is at the individual level. Controls are age (and its square), a dummy if male, if rural, if unemployed, if member of a religious group, and the interviewee's educational level. They also include interviewers' characteristics (gender and education) and whether he/she speaks the same language of the interviewee. Standard errors in parentheses are clustered at village level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 1: Differential effects of the Baga Massacre on a set of attitudes towards the state between Muslims (=1) and non-Muslims interviewees (=0)



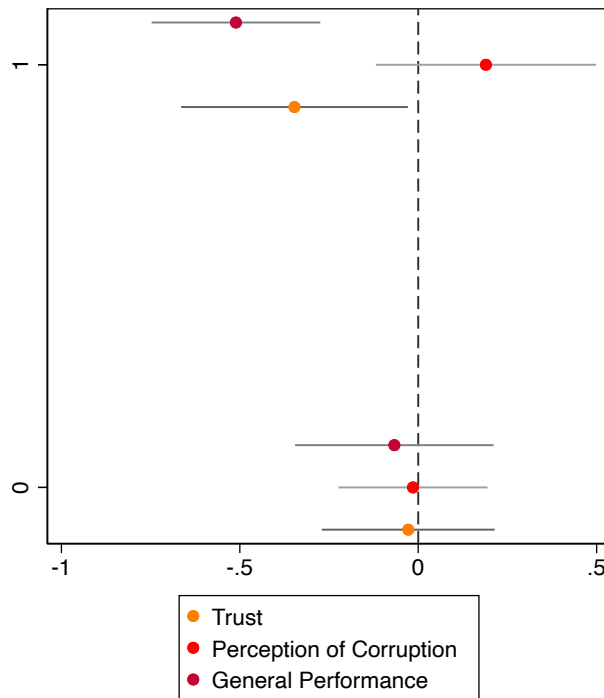
*Notes:* The figure plots the marginal effects of the Baga Massacre on a set of attitudes towards the state computed for the Muslim group (=1, set on top of the graph box) and non-Muslims group interviewees (=0, set on the bottom of the graph box). Orange dots depict the marginal effects of the Baga Massacre on the scale: *how satisfied are you with the way democracy works in Nigeria?* Red dots depict the marginal effects on the scale: *People must obey the law.* Dark red dots depict the marginal effects on the scale: *People must pay taxes.* Horizontal lines around the point estimates draw confidence interval at 90% level. The dashed vertical line indicate a zero effect.

Table 4: Attitudes towards the President of Nigeria and ethnic divide

	Dependent Variable is (Related to the President):					
	Trust		Percept. Corruption		Overall Performance	
	(1)	(2)	(3)	(4)	(5)	(6)
post	-0.206 (0.151)	-0.028 (0.147)	0.101 (0.125)	-0.015 (0.126)	-0.309** (0.135)	-0.067 (0.168)
muslim		-0.223*** (0.071)		0.082 (0.054)		-0.177** (0.077)
post × muslim		-0.319 (0.204)		0.204 (0.215)		-0.444** (0.181)
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2379	2379	2330	2330	2376	2376
$R^2$	0.227	0.233	0.121	0.123	0.376	0.382

The unit of observation is at the individual level. Controls are age (and its square), a dummy if male, if rural, if unemployed, if member of a religious group, and the interviewee's educational level. They also include interviewers' characteristics (gender and education) and whether he/she speaks the same language of the interviewee. Standard errors in parentheses are clustered at village level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 2: Differential effects of the Baga Massacre on a set of attitudes towards the President between Muslims (=1) and non-Muslims interviewees (=0)



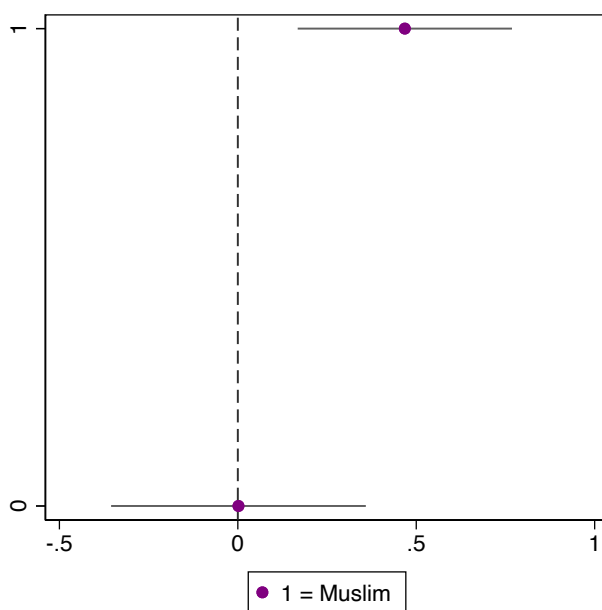
*Notes:* The figure plots the marginal effects of the Baga Massacre on a set of attitudes towards the President computed for the Muslim group (=1, set on top of the graph box) and non-Muslims group interviewees (=0, set on the bottom of the graph box). Orange dots depict the marginal effects of the Baga Massacre on the scale: *how much do you trust the President?* Red dots depict the marginal effects on the scale: *How many between the President and the officials of the Presidency do you think are involved in corruption?* Note that this scale increases when citizens are less likely to think the President and the other officials in corruption. Dark red dots depict the marginal effects on the scale: *Do you approve or disapprove of the way the President have performed his jobs over the past twelve months?* Horizontal lines around the point estimates draw confidence interval at 90% level. The dashed vertical line indicate a zero effect.

Table 5: Elections as device to overrule leaders from office and ethnic divide

	Dept. Var.: Political Salience of Elections				
	(1)	(2)	(3)	(4)	(5)
			non-Muslims	Muslims	
post	0.245 (0.162)	0.255* (0.151)	-0.014 (0.220)	0.449** (0.182)	0.002 (0.216)
muslim					-0.112 (0.071)
post × muslim					0.466* (0.270)
Controls	No	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes	Yes
Observations	2309	2309	1420	889	2309
$R^2$	0.002	0.147	0.174	0.151	0.150

The unit of observation is at the individual level. Controls included in columns 2 to 5 are age (and its square), a dummy if male, if rural, if unemployed, if member of a religious group, and the interviewee's educational level. They also include interviewers' characteristics (gender and education) and whether he/she speaks the same language of the interviewee. Standard errors in parentheses are clustered at village level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 3: Differential effects of the Baga Massacre on attitudes towards elections between Muslims (=1) and non-Muslims interviewees (=0)



*Notes:* The figure plots the marginal effects of the Baga Massacre on the scale *Do elections enable voters to remove from office leaders who do not do what the people want?*, computed for the Muslim group (=1, set on top of the graph box) and non-Muslims group interviewees (=0, set on the bottom of the graph box). Horizontal lines around the point estimates draw confidence interval at 90% level. The dashed vertical line indicate a zero effect.

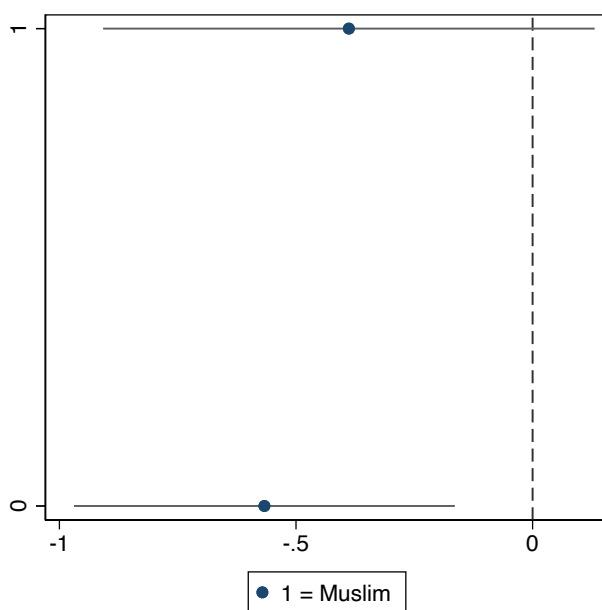


Table 6: Attitudes towards neighbors of different religion across Muslims and non-Muslims

	Dept. Var.: Like Neighbors of other Religions				
	(1)	(2)	(3)	(4)	(5)
			non-Muslims	Muslims	
post	-0.464** (0.229)	-0.470** (0.238)	-0.576** (0.261)	-0.403 (0.306)	-0.567** (0.244)
muslim					-0.036 (0.082)
post × muslim					0.178 (0.314)
Controls	No	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes	Yes
Observations	2354	2354	1452	902	2354
$R^2$	0.005	0.200	0.151	0.325	0.200

The unit of observation is at the individual level. Controls included in columns 2 to 5 are age (and its square), a dummy if male, if rural, if unemployed, if member of a religious group, and the interviewee's educational level. They also include interviewers' characteristics (gender and education) and whether he/she speaks the same language of the interviewee. Standard errors in parentheses are clustered at village level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 4: Differential effects of the Baga Massacre on attitudes towards neighbors of different religions between Muslims (=1) and non-Muslims interviewees (=0)



*Notes:* The figure plots the marginal effects of the Baga Massacre on the scale *Would you like having people from other religions as neighbors?*, computed for the Muslim group (=1, set on top of the graph box) and non-Muslims group interviewees (=0, set on the bottom of the graph box). Horizontal lines around the point estimates draw confidence interval at 90% level. The dashed vertical line indicate a zero effect.

Table 7: Falsification Test

	Dependent Variable is:					
	Impunity of Ordinary People (1)	(2)	Fair Elections (3)	(4)	Voters are Bribe (5)	(6)
post	-0.063 (0.185)	-0.165 (0.198)	0.126 (0.107)	0.228 (0.185)	-0.241 (0.164)	-0.144 (0.205)
muslim		-0.097 (0.075)		0.018 (0.060)		0.071 (0.066)
post × muslim		0.195 (0.197)		-0.185 (0.213)		-0.180 (0.280)
Observations	2349	2349	2333	2333	2315	2315
$R^2$	0.087	0.088	0.105	0.105	0.129	0.130

The unit of observation is at the individual level. Controls are age (and its square), a dummy if male, if rural, if unemployed, if member of a religious group, and the interviewee's educational level. They also include interviewers' characteristics (gender and education) and whether he/she speaks the same language of the interviewee. Standard errors in parentheses are clustered at village level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A1: Summary statistics of covariates

	mean	sd	min	max	count
Age	31.91	10.78	18.00	88.00	2400
Age (square)	1134.44	872.79	324.00	7744.00	2400
Male	0.50	0.50	0.00	1.00	2400
Rural	0.56	0.50	0.00	1.00	2400
Unemployed	0.47	0.50	0.00	1.00	2400
Education	4.69	3.85	0.00	9.00	2400
Member of Rel. Group	1.21	1.41	0.00	9.00	2400
Male (interviewer)	0.51	0.50	0.00	1.00	2400
Same Language	0.49	0.50	0.00	1.00	2400
Influenced by Others	0.03	0.16	0.00	1.00	2400
Education of the interviewer	6.69	1.12	4.00	9.00	2400